



1303.44954X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: H. MATSUTANI, et al.

Application No.: 10/529,369

Filed: OCTOBER 5, 2005

For: BORAZINE-BASED RESIN, PROCESS FOR ITS PRODUCTION, BORAZINE-BASED RESIN COMPOSITION, INSULATING FILM AND METHOD FOR ITS FORMATION

Group AU: 1712

Examiner: Marc S. Zimmer

Confirm. No: 4784

**DECLARATION UNDER 37 CFR 1.132**

**Mail Stop: AMEND – FEE**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

February 7, 2008

Sir:

I, Hiroshi MATSUTANI, a citizen of Japan, residing at Namekawa 2-21-26-202, Hitachi, Ibaraki 317-0053, Japan, DECLARE THAT:

1. I have a Doctor's degree in the field of chemical engineering from Tokyo Institute of Technology.
2. I have been employed at the Research Laboratory of Hitachi Chemical Company, Ltd., and am familiar with the field of polymer synthesis and material science.
3. I am one of the named inventors in U.S. Patent Application No. 10/529,369, filed October 5, 2005 (hereinafter, "the above-identified

application"), and am familiar with the Office Action dated August 7, 2007, therein, and with the references discussed in this Office Action dated August 7, 2007.

4. I have conducted the following experiment to investigate the effect on metal impurity content, leak current and specific dielectric constant by using a known reprecipitation method to form a borazine-based resin composition and an insulating film from this borazine-based resin composition.

5. <Production Example 1-6>

(Production of purified borazine-based resin composition 1-6)

A reaction solution obtained according to the Production Example 1-5 in Paragraph [0156] on pages 67 and 68 of the above-identified application was poured into methanol (20 ml). The resulting mixture was filtered, and the precipitates were collected and dried under vacuo at room temperature to produce a powdered borazine-based resin. Then, 0.24g of the resulting resin was dissolved in pure ethylbenzene (10 ml) to obtain the borazine-based resin composition 1-6.

6. <Comparative Example 1-2>

(Production of insulating film 1-6)

An insulating film 1-6 was obtained in the same manner as in Example 1-1 in Paragraph [0157] on page 68 of the above-identified application, except that the borazine-based resin composition 1-6 obtained in Production Example 1-6 described in Paragraph 5 of this Declaration was used instead of the borazine-based resin composition 1-1.

7. The platinum concentration of the purified borazine-based resin composition 1-6 is shown below in Table A.

Table A

Borazine-based resin composition	Platinum concentration (ppm)
Production Example 1-6	35

8. The results in measuring the specific dielectric constant, leak current and Young's modulus of the insulating film 1-6 are shown in Table B.

Table B

Insulating film	Specific dielectric constant	Leak current (A/cm <sup>2</sup> )	Young's modulus (GPa)
Insulating film 1-6	2.7	5x10 <sup>-8</sup>	9

9. Comparing the results in Table A with the results in Table 1 in Paragraph [0162] on page 69 of the above-identified application, it can be seen that the present invention as seen in Production Examples 1-1 through 1-4 achieves unexpectedly reduced platinum concentration in the borazine-based resin composition as compared with reduced platinum concentration obtained by a known reprecipitation method; and that the known reprecipitation method would not obtain the reduced platinum concentration as in claim 1 of the above-identified application.

10. Comparing the results in Table B with the results in Table 2 in Paragraph [0168] on page 71 of the above-identified application, it can be seen that the present invention as seen in Insulating films 1-1 through 1-4 achieves unexpectedly reduced specific dielectric constant and leak current with high Young's modulus, as compared with respective values of specific dielectric constant, leak

current and Young's modulus obtained by a known reprecipitation method as in Insulating film 1-8; and that the known reprecipitation method would not obtain respective values of specific dielectric constant, leak current and Young's modulus as in claim 1 of the above-identified application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Feb. 5, 2008  
Date

松谷寛  
Hiroshi MATSUTANI